


TO: HONORABLE HANK COE
HONORABLE MATT TEETERS

FROM: Flint Waters, State Chief Information Officer 

SUBJECT: Unified Network Phase I and II

DATE: October 24, 2013

CC: Tony Young, Deputy Chief of Staff, Office of the Governor

EXECUTIVE SUMMARY

At the request of the chairmen of the Joint Education Committee, the Department of Enterprise Technology Services (ETS) is providing an update on the progress related to the Unified Network.

"Update on phase I and II of the new WEN design and construction, together with proposed funding amounts and funding sources."

Unified Network

The buildout of the new Unified Network's design is well underway. Phase I began July 1, 2013, as the State began new leases and negotiations on individual circuits with multiple service providers.

ETS is presenting an enhanced network design as part of the FY 2015-16 Biennium Budget request proposing to substantially upgrade the capabilities for Wyoming through enhanced partnerships with vendors, migration to the latest technologies (IPv6) and redundant paths of sustainable support offering the greatest possible security and business value. Voice over Internet Protocol (VoIP) communication protocols, technologies and transmission techniques can also be delivered over this network.

Phase 1 is expected to be completed on or about February 28, 2014, while phase 2 is expected to begin upon legislative approval with a goal of completion by August 30, 2015.

The preliminary budget for the Unified Network is approximately \$16 million in a *one time ask*. It should be noted the enhancements to the Unified Network are intended to raise the capacity and scalability across the State *with minimal impact* on annual support costs.

Phase I Timeline

Begin phased implementation of core network infrastructure.

- The process of selecting the physical location of aggregation points for phase 1 is underway



with collective community college, school district and state agency representation on the Unified Network Steering Committee. Options are being investigated for locations in Torrington, Douglas and Rawlins. The University of Wyoming will follow as the aggregation point in Laramie. Other aggregation locations will be selected after the core location has been decided for that region to better identify the needs for that specific location and make informed decisions with latest information.

- Connect to the Bi-State Optical Network (BiSON) ring through the University of Wyoming to enhance our ability to serve Laramie and to peer with Google through the Front Range GigaPop (Interconnectivity to high-performance research and education networks).
- A selection matrix for selecting aggregation locations has been created. This list will be reviewed by the Unified Network Steering Committee in order to add a weight criteria mechanism that will be used when evaluating locations.

Phase 2 Perspective Timeline

Continue phased implementation of key infrastructure.

- Build out of hub locations in Sheridan, Basin, Casper, Riverton, Jackson and Rock Springs.
- Since the traffic will be delivered between the hubs by our private partners, a request for proposal (RFP) will be released for layer two lease lines between hub locations. These lines are intended to be 10 to 100 Gigabit (Gb).
- Build out aggregate points serving every region.
- Phase migration of end run circuits from Cheyenne to aggregate points.
- Finalizing the firewall vendor and placement of security devices.

ADDITIONAL INFORMATION AND OTHER PRIORITY EFFORTS IN PROGRESS:

A third party architecture review is planned to occur in late 2013. ETS is investigating firms providing this type of service and cost. The goal would be to gain a hardware agnostic technical review, and identify gaps and opportunities. Doing so, would allow ETS to be better equipped to adjust architecture, address gaps and reduce costs where appropriate.

An updated engineering document draft has been presented to and reviewed with the Unified Network Steering Committee. ETS is in the process of scheduling technical breakout discussions



between project leads and steering committee members. An initial meeting was scheduled with the Department of Game and Fish in mid-September and one will be scheduled with the Department of Transportation in the near future.

ETS currently has active bidding opportunities for fiber connectivity from the Emerson building to the NCAR-Wyoming Supercomputing Center (NWSC) and the Herschler building to NWSC. Bidding opportunities for this project close on October 2, 2013, at the end of the business day. This connection is intended to supplement the existing fiber connection between the State and the University of Wyoming. It will also provide a redundant route to partner with UW in connection to the Front Range Gigapop in Denver.

Several Point to Point (P2P) wireless units have been deployed for testing in various locations with promising test results. As ETS continues to make progress in the development of the Unified Network, additional testing and evaluation will be required before other specific architecture decisions are made. This technology is being assessed for broadband connectivity where construction is difficult and to provide backup or emergency connectivity due to accidental fiber cuts.



